COMMAND FILE

The MISOSYS COMMAND FILE UTILITY is a general purpose disk-to-disk, tape-to-disk and disk-to-tape, machine language program that has been designed to provide the capability of appending two or more CoMmanD (CMD, CIM, OBJ) files (machine language load modules or OBJect decks) or SYSTEM tape files (machine language files that can be loaded with the BASIC "SYSTEM" command. Inherent in its capability of performing I/O to disk or tape are the following functions:

1. Append two or more 'COMMAND' disk files or 'SYSTEM' cassette tape files into one file. This is useful to concatenate two or more separately assembled OBJECT deck files, concatenate two or more non-contiguous blocks of code, or also couple two or more programs together so they load together.

2. Offset a tape or disk file so that it loads into a region other than originally programmed. A driver routine is optionally appended that moves it back to its original load region. User options provide for disabling the clock interrupts and keyboard debounce routines in the event that the SYSTEM program would have overlayed the debounce routine of LDOS, NEWDOS, or TRSDOS

3. Machine language programs (tape or disk files) can be appended with patched code to correct errors without reassembly of the program.

4. Command files can be copied from one SYSTEM diskette to another SYSTEM diskette on a single drive system provided both diskettes use the same operating system.

5. SYSTEM cassette tape files can be created from non-contiguous blocks of memory; heretofore only possible via direct assembly from the Editor Assembler.

6. During input of 'COMMAND' files, the load address range of each block of code is displayed to the CRT and optionally to a line printer. The file's transfer address or entry point is also displayed.

PROCEDURES:

Appending two or more files

In order to append (concatenate) two or more files into one
contiguous file, keep responding to query (2) with the "D" or
"T" indicator depending on where each file resides, in order to
read all the desired files into the memory buffer. When the last
file has been read in, respond to query (2) by depressing
<ENTER> to initiate the output cycle. Note that the transfer
address jumped to on initial loading of the concatenated file
would be the transfer address detected from the last file input.
Thus, if you want to provide control to another address, use
query (7) to modify the transfer address to one of your own
choosing.

If you also have to offset the concatenated file, it cannot be
done during this output writing. Complete the above procedure,
thereby creating the appended file. Now reinput the appended
file and offset it. This second operation will provide for your
transfer address as the control point after the driver routine
restores the loaded module to its original load point.

Patching programs:

Programs can be patched in a manner similar to LDOS's "PATCH"
command. PATCH applies program corrections at the end of a load
module so that the corrected bytes will overlay the incorrect
bytes during the load process. ONce you are made aware of the
patch code, assemble it using the Editor Assembler. You may need
to employ a series of ORGs and data assembly statements (DEFBs,
DEFWs, etc.). The assembled object file can now be appended to
the end of the original program. During the load operation of
the "patched" program, the original code is first loaded but is
then overlayed by your appended "patch" code.

Transferring a disk file to tape:

Any disk object load module can be transferred to tape as a
SYSTEM file. This feature is especially useful to assembly
language programmers developing machine language programs for
commercial sale. By using EDAS, your assembly language
development can proceed using disk I/O. The file can then be
transferred to a tape cassette to create a "master" for
duplication.

Transferring a SYSTEM tape to disk:

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To execute the COMMAND FILE UTILITY, at your DOS READY simply type:

    CMDFILE <ENTER>

COMMAND FILE will load and execute.

COMMAND STRUCTURE:

All functions and procedures are specified by responding to a series of queries. Some queries request yes/no responses Abbreviated Y/N), some request disk/tape responses (abbreviated D/T), while others request specific information (i.e. file names, new addresses, etc.). Most yes/no and disk/tape responses can also be answered with a "C" to cancel the request and return to the main prompt as noted above. If you want to return to DOS, responding with "E" for EXIT will return you to the respective system. Each query displays the valid responses acceptable to it. All queries accept lower case responses as well as upper case.

Query (1):

    ADDRESS LOAD LOG TO PRINTER (Y,N,E)? >

The address load log will be displayed only for files read in from disk. The timing on tape reads is too critical to perform the extra processing necessary to detect the load limits and display them during a tape read. If you are a disk user, have a line printer, and want this log displayed on your printer, respond with a "Y", otherwise respond with an "N". If you want to exit CMDFILE, enter "E". This query is referred to as the main query. Whenever it is displayed, the memory buffer, used to store input files, will be reset to its beginning position to initialize for a series of input requests. His effectively Clears" the input buffer.

Query (2):

INPUT FROM DISK OR TAPE (D,T,E,C) OR <ENTER> TO END READS?

This query cycles anytime CMDFILE is ready to read in another file. Any file read in will be appended to any file previously input since the main query prompt. If you want to read in a disk file, respond with a "D". If the file is to be input from tape, respond with a "T". You may quit and

return to DOS by entering an "E". A response of "C" will cancel the input and return you to the main query, thus reinitializing the memory buffer.

If you have read in file(s) and want to begin a writing operation, respond with <ENTER> (i.e. just depress the <ENTER> key without entering any other character).

In order to read in a disk file (response to query (2) with "D"), you will be prompted for the filespec via the query:

ENTER INPUT FILE FILESPEC >

Enter the filespec to begin the read operation. This utility will default the filespec to an extension of CMD if you leave the file extension blank. If any disk I/O error results, or any disk problem that results in the file not being read to completion, you will be returned to query (2) and no fragment of the file will be added to the memory buffer. A disk file reread will properly append any file previously read in.

In order to read in a cassette file, you will be prompted to ready the tape with:

READY CASSETTE AND <ENTER>   - Model I
READY CASSETTE AND ENTER <H,L> - Model III

Depress the <ENTER> key after you have prepared the tape for input. There is no need to enter a file name. The next program found on the tape will be read. If a CHECKSUM is detected during the tape read operation, you will be prompted with the message:

TAPE CHECKSUM ERROR DETECTED - REREAD TAPE!

Any previously read in file will not be destroyed. The partial tape load will be ignored and subsequent reads will properly append any previously read in file.

If during an input, the file being loaded will exhaust your machine's memory, this message will appear:

OUT OF MEMORY!

Again, no file or files previously read into the memory buffer will be disturbed. You can proceed to save the buffer contents prior to the file that exhausted your

machine's memory.

If you attempt to read in a file that is not a 'COMMAND' or
'SYSTEM' file, you will most likely receive the message:

REQUESTED FILE IS NOT A COMMAND OR SYSTEM FILE!

The read operation will cease. You will be returned to
query (2).

As a disk file is read, each block detected will produce
the message:

BLOCK LOADS FROM XXXX TO XXXX

At the conclusion of the file read, whether from disk or
tape, the transfer address (the program address that is
jumped to after loading to begin its execution) is
displayed as in:

TRANSFER ADDRESS (ENTRY POINT) IS XXXX

At this point, you will recycle to the INPUT FROM DISK OR
TAPE query (2).

Query (3):

PROGRAM LOADS FROM BASE ADDRESS XXXX TO XXXX

ENTER NEW BASE ADDRESS OR <ENTER> >

Query (3) will be output if one or more files were input
from disk or tape. If you do not need to offset the output
file, just depress the <ENTER> key and proceed to query
(7). In general, if you are transfering a SYSTEM tape file
to disk, and the tape file would ordinarily overlay the
operating system's resident program (4200H-51FFH), you
cannot load the disk file into memory from disk unless it
is offset from the resident system. Once in memory, a block
move routine can restore it to its original load point.

The Command File Utility will not offset any part of a load
module that loads below 4200H. This is to permit programs
that purposely affect system variables or display messages
to the memory mapped video (3C00H-3FFFH) to load properly.

If you have input a program file that loads below 4200H and
you are requesting to OFFSET the program, the following

message will be displayed:

        Program loads below 4200H
        Enter Address to restrict offset or <ENTER> >

This gives you the option of restricting the offsetting
operation below a specified address. For instance, if the
program loaded a message directly to the screen, it would
have a load block within the range 3C00H-3FFFH. You can
maintain that load block in its original location (to the
screen) by entering the lowest address above the screen
area as identified in the ADDRESS LOAD LOG in response to
the above query. This would provide the offset to any
portion of the program originally loading at an address
greater than the screen end (3FFFH) and maintain the
original load addresses for any block loading into an area
below the address entered.

        For example, the ADDRESS LOAD LOG begins with:

        Block loads from 3C00 to 3C7F
        Block loads from 5200 to 5282
        Block loads from 5283 to 5304
        . . .

The entire program module can be offset starting at 5200 by
entering "5200" in response to the "Enter Address to restrict
offset or <ENTER> >" query. In this manner, the load address of
the load block addressed to the screen memory will be retained
as 3C00 to 3C7F.

The Command File Utility has the capability of reading the ISAM
modules of LDOS or VTOS. If CMDFILE interprets the module being
loaded as one conforming to the load format of LDOS's or VTOS's
ISAM files, then the query:

        File has ISAM overlays - enter # >

will be displayed. If you enter the 2-character overlay number,
CMDFILE will read only the desired overlay into its memory
buffer. If you respond with "FF", then the entire module will be
loaded. There is no attempt in the CMDFILE documentation to
explain the ISAM file structure.

If you want to change the load addresses of the output file
(offset it), enter the new base load address. For example, if
the existing load is from 4300H to 5000H and you want it to load
starting at 5300H, enter the base address 5300H. After entering

the new base address, you will receive the query:

Query (4):

    DO YOU WANT TO ADD THE OFFSET DRIVER ROUTINE (Y,N,E,C)? >

A response of "E" will EXIT the program, while "C" will cancel
the request and return you to the main query. If you do not want
the restoring driver routine appended, respond with "N" and
proceed to query (7), otherwise respond "Y".

It may not be immediately obvious why you would want to offset a
file but not add the appendage. One use would be to change the
base address of a relocatable driver routine.

Query (5:

        DO YOU WANT TO DISABLE THE INTERRUPTS (Y,N,E,C)? >

A response of "E" will EXIT the program, while "C" will cancel
the request and return you to the main query. If you want to
disable the interrupts (which should be done if the program does
any tape operation or will overlay the disk operating system's
interrupt processing routine), then respond "Y", else "N". The
next query is:

Query (6):

    DO YOU WANT TO DISABLE THE KEYBOARD DEBOUNCE (Y,N,E,C)? >

A response of "E" will EXIT the program, while "C" will cancel
the request and return you to the main query. If you want to
disable the keyboard debounce routine (which should be done if
the output file will overlay the disk system's debounce routine
between approximately 4300H and 4400H), respond with a "Y", else
respond with "N". Query (7) will now be bypassed, as the driver
routine appendage dictates the transfer address. Proceed to
query (8).

Query (7):

        ENTER NEW TRANSFER ADDRESS OR <ENTER> TO USE XXXX >

If you want to change the transfer address (entry point), you
can enter the new address. This capability is useful when
appending two or more files since the transfer address used
would default to the transfer address of the last file read in
unless otherwise specified. Note that if you had requested the

driver appendage, you would not be able to change the transfer address (entry point).

Query (8):

     OUTPUT TO DISK OR TAPE (D,T,E,C) OR <ENTER> TO RESTART? >

Again, a response of "E" will EXIT the program, while "C" will cancel the request and return you to the main query. Just depressing <ENTER> will also return you to the main query. Cancellation is available if you do not want to create an output file but rather want just to determine disk files' load addresses.

If you want to create an output disk file, respond with a "D". You will be prompted for the filespec with:

     ENTER FILESPEC TO WRITE OUTPUT >

After entering the filespec (remember CMD will be used as a default extension), the output file will be written to disk (using VERIFY).

If you want to create an output tape file, respond with a "T". You will be prompted to enter the filename with:

     ENTER TAPE FILE NAME >

After entering the filename (up to six characters), you will be prompted to ready the cassette. Any name entered will be converted to upper case. The tape will then be written.

At the conclusion of the disk or tape writing operation, you will receive the query:

Query (9)

     MODULE WRITE IS COMPLETE - WRITE ANOTHER (Y,N,E,C)? >

The "E" and "C" responses are as before. A response of "N" will also return you to query (1> If you want to generate an additional output copy, respond with "Y". If you had selected TAPE output, you would be prompted to ready the cassette and another copy would be written using the same file name as was entered, followed by query (9). If you had selected DISK output, you would be returned to query (8) so that additional output files could be written to tape or other filespecs.